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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,310	09/28/2005	Yonggang Du	CN030007	6439

24737 7590 11/15/2007
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

BHATTACHARYA, SAM

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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11/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,310	Applicant(s) DU ET AL.	
	Examiner Sam Bhattacharya	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>see attached</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Verma (US 6,215,772).

Regarding claims 1, 11, 25 and 31, Verma discloses a method performed by a wireless communication system for managing multi-hop communications, the method comprising the steps of: (a) receiving a request from an originating mobile terminal for initiating a call to a receiving mobile terminal; (b) determining whether the originating mobile terminal can use multi-hop communication services; (c) determining an operating mode of the originating mobile terminal for multi-hop communication; (d) determining whether relaying can be provided by one or more relaying mobile terminals for multi-hop communication by the originating mobile terminal; and (e) if the originating mobile terminal can use the services, the originating mobile terminal is in the default mode, and the relaying can be provided, establishing multi-hop communication between the originating mobile terminal and the system. See col. 3, lines 11-17 and 34-44.

Regarding claims 2, 12, and 27-29, Verma discloses wherein step (b) includes the steps of: (i) determining whether the originating mobile terminal has subscribed multi-hop communication services; and (ii) if the originating mobile terminal has subscribed the multi-hop

communication services, determining whether the originating mobile terminal is suitable for using the multi-hop communication services. See col. 4, lines 45-63.

Regarding claims 3, 13, 21, Verma discloses if the originating mobile terminal is in a prompt mode for multi-hop communication, sending a prompt to the originating mobile terminal for selection of the multi-hop communication services, along with information about incentives for using the services. See col. 8, lines 24-45.

Regarding claims 4 and 14, Verma discloses wherein step (e) includes the step of: if the originating mobile terminal in the prompt mode selects the multi-hop communication services, allocating resources for setting up a multi-hop communication link between the originating mobile terminal and the system. See col. 3, lines 11-17.

Regarding claims 5 and 15, Verma discloses further comprising the step of: after the multi-hop communication is completed, recording information relating to the multi-hop communication services for the originating and relaying mobile terminals in at least one of a home location register and a visitor location register. See col. 8, lines 24-45.

Regarding claims 6 and 16, 30, Verma discloses comprising the step of: after the multi-hop communication is completed, sending discounted billing information to the originating mobile terminal and incentive information to the relaying mobile terminals. See col. 4, lines 45-63.

Regarding claims 7 and 17, Verma discloses further comprising the step of providing conventional communication services to the originating mobile terminal, if the originating mobile terminal cannot use multi-hop communication services, the relaying cannot be provided,

or the originating mobile terminal in the prompt mode fails to select the multi-hop communication services. See col. 3, lines 11-17.

Regarding claims 8 and 18, 31, Verma discloses further comprising the step of calculating the incentives to the originating mobile terminal based on statistical benefits resulting from at least one of an increase in system capacity and an decrease in overall interference.

Regarding claims 9 and 19, 32, Verma discloses further comprising the step of calculating the incentives to the originating mobile terminal based on the number of hops used to support the multi-hop communication link. See col. 4, lines 45-63.

Regarding claims 10 and 20, Verma discloses further comprising the step of calculating the incentives to the originating mobile terminal in accordance with actual traffic load conditions and interference for a predetermined time duration. See col. 8, lines 24-45.

Regarding claims 22, Verma discloses further comprising the step of, if the mobile terminal is in a default mode, providing the relaying. See col. 3, lines 11-17.

Regarding claims 23, Verma discloses further comprising the step of, before step (a), checking whether the mobile terminal is in an idle mode; and wherein step (a) is performed if the mobile terminal is in an idle mode. See col. 8, lines 24-45.

Regarding claims 24, Verma discloses further comprising the steps of: before step (a) determining whether the mobile terminal is in a disabled relaying mode; and if the mobile terminal is in the disabled relaying mode, rejecting any request for relaying. See col. 4, lines 45-63.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Bhattacharya whose telephone number is (571) 272-7917. The examiner can normally be reached on Weekdays, 9-6, with first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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